

50. (Amended) A display method comprising irradiating a light transmitting member with light from a light source and changing a contact state of a light transmitting material with respect to said light transmitting member on an optical path of the light, wherein at least a portion of the light incident into said light transmitting member from said light source is output as a light component having directivity from said light transmitting member, and said light component is used to display images.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-28, 49 and 50 are pending in the present application. Claims 29-48, 51 and 52 have been canceled, and Claims 1-4, 7-11, 14-16, 21-23, 28, 49 and 50 have been amended by the present amendment.

In the outstanding Office Action, the disclosure was objected to; and Claims 1-28, 49 and 50 were rejected under 35 U.S.C. § 102(b) as anticipated by Stern.

Regarding the objection to the disclosure, the disclosure has been amended in light of the comments noted in the outstanding Office Action and as shown in the marked-up copy. Accordingly, it is respectfully requested this objection be withdrawn.

Claims 1-28 and 49-50 stand rejected under 35 U.S.C. § 102(b) as anticipated by Stern. This rejection is respectfully traversed.

As discussed in the specification at page 2, line 17 to page 4, line 5, using a plate-like light waveguide in a display device causes the display device to output a diffused light having no directivity. Further, it is difficult to use a display device which outputs a diffused

light as a projection display because it is required that a light component having directivity be output to enable the display device to perform projection-type image display.

The present invention according to independent Claims 1, 8, 15 and 22 recite that at least a part of a light which is emitted from a light source and irradiates a light transmitting member is output as a light component having directivity from the light transmitting member. Further, independent Claims 49 and 50 recite that one of light transmitted through the interface between a light transmitting member and an external region adjacent to the light transmitting member and totally reflective light is output as a light component having directivity from the light transmitting member. Independent Claims 1, 8, 15, 22, 49 and 50 also recite that the light component is used to display images. That is, independent Claims 1, 8, 15, 22, 49 and 50 are directed to a structure and method which enables a projection-type image display.

The outstanding Office Action indicates Stern teaches the claimed invention. However, Applicant notes the optical display disclosed in Stern includes a light storage plate and a light tap. The light output from the light storage plate is a diffused light because the light storage plate functions as a plate-like light waveguide. In addition, as disclosed in Stern, the light tap outputs a scattered light. That is, Stern does not teach or suggest a structure or method in which a light component having directivity can be output from the light tap. Thus, Stern does not teach or suggest the claimed structure and method in which the projection-type image display is possible.

Accordingly, it is respectfully submitted independent Claims 1, 8, 15, 22, 49 and 50 and each of the claims depending therefrom are allowable.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

Page 29, please replace the paragraph beginning at line 26 to page 30, line 9 as follows:

Although in the above description the transparent substrate 2 is used as a light transmitting member, [not only the transparent substrate 2 is] the transparent substrate 2 is not the only one that can be used as a light transmitting member. For example, when a thin transparent film such as a transparent electrode is formed on the transparent substrate 2, this thin transparent film functions as a light transmitting member. Of the embodiments to be described in detail below, in the first to third and fifth embodiments a transparent electrode is primarily used as a light transmitting member.

IN THE CLAIMS

Please cancel Claims 29-48, 51 and 52 without prejudice.

Please amend Claims 1-4, 7-11, 14-16, 21-23, 28, 49 and 50 as follows:

--1. (Amended) A display device comprising:

a light transmitting member;

a light source [for irradiating] that irradiates said light transmitting member with light; and

a control mechanism [for switching] configured to switch between total reflection and transmission [the] a behavior of the light, incident into said light transmitting member from

said light source, at an interface between said light transmitting member and an external region adjacent to said light transmitting member,

wherein said display device is configured to cause at least a portion of the light emitted by said light source [to irradiate] and irradiating said light transmitting member [is] to be output as a light component having directivity from said light transmitting member, and said light component is used to display images.

2. (Amended) A device according to claim 1, wherein said control mechanism [changes] is configured to change a refractive index of said external region.

3. (Amended) A device according to claim 1, wherein said control mechanism comprises a transparent member opposing said light transmitting member and a moving mechanism [for changing] configured to change the state of said transparent member with respect to said light transmitting member between a contact state and a separated state.

4. (Amended) A device according to claim 3, wherein said transparent member has elasticity, and

said moving mechanism [changes] is configured to change a contact area between said transparent member and said light transmitting member in the contact state by deforming said transparent member.

7. (Amended) A device according to claim 1, further comprising a scattering surface [for scattering] that scatters output light from said light transmitting member.

8. (Amended) A display device comprising:
a light transmitting member;
a light source [for irradiating] that irradiates said light transmitting member with light; and

a plurality of control mechanisms arrayed on said light transmitting member and configured to switch between total reflection and transmission [the] a behavior of light, incident into said light transmitting member from said light source, at an interface between said light transmitting member and an external region adjacent to said light transmitting member,

wherein said display device is configured to cause at least a portion of the light emitted by said light source [to irradiate] and irradiating said light transmitting member [is] to be output as a light component having directivity from said light transmitting member, and said light component is used to display images.

9. (Amended) A device according to claim 8, wherein each of said control mechanisms [changes] is configured to change a refractive index of said external region.

10. (Amended) A device according to claim 8, wherein each of said control mechanisms comprises a transparent member opposing said light transmitting member and a moving mechanism [for changing] configured to change the state of said transparent member with respect to said light transmitting member between a contact state and a separated state.

11. (Amended) A device according to claim 10, wherein said transparent member has elasticity, and

said moving mechanism [changes] is configured to change a contact area between said transparent member and said light transmitting member in the contact state by deforming said transparent member.

14. (Amended) A device according to claim 8, further comprising a scattering surface [for scattering] that scatters output light from said light transmitting member.

15. (Amended) A display device comprising:

light transmitting member;

a light transmitting material;

a light source [for irradiating] that irradiates said light transmitting member with light; and

a control mechanism [for changing] configured to change a contact state of said light transmitting material with respect to said light transmitting member on an optical path of the light,

wherein said display device is configured to cause at least a portion of the light emitted by said light source [to irradiate] and irradiating said light transmitting member [is] to be output as a light component having directivity from said light transmitting member, and said light component is used to display images.

16. (Amended) A device according to claim 15, wherein said control mechanism [changes] is configured to change a contact area of said light transmitting material with respect to said light transmitting member on the optical path of the light.

21. (Amended) A device according to claim 15, further comprising a scattering surface [for scattering] that scatters output light from said light transmitting member.

22. (Amended) A display device comprising:

a light transmitting member;

a light transmitting material;

a light source [for irradiating] that irradiates said light transmitting member with light; and

a plurality of control mechanisms arrayed on said light transmitting member and configured to change a contact state of said light transmitting material with respect to said light transmitting member on an optical path of the light,

wherein said display device is configured to cause at least a portion of the light emitted by said light source [to irradiate] and irradiating said light transmitting member [is] to be output as a light component having directivity from said light transmitting member, and said light component is used to display images.

23. (Amended) A device according to claim 22, wherein each of said control mechanisms [changes] is configured to change a contact area of said light transmitting material with respect to said light transmitting member on the optical path of the light.

28. (Amended) A device according to claim 22, further comprising a scattering surface [for scattering] that scatters output light from said light transmitting member.

49. (Amended) A display method comprising [the step of] switching between total reflection and transmission a behavior of light, incident into a light transmitting member from a light source, at an interface between said light transmitting member and an external region adjacent to said light transmitting member,

wherein one of light transmitted through said interface and light totally reflected by said interface is output as a light component having directivity from said light transmitting member, and said light component is used to display images.

50. (Amended) A display method comprising [the step of] irradiating a light transmitting member with light from a light source and changing a contact state of a light transmitting material with respect to said light transmitting member on an optical path of the light,

wherein at least a portion of the light incident into said light transmitting member from said light source is output as a light component having directivity from said light transmitting member, and said light component is used to display images.--